

Application No. 09/889,000
Amendment "E" dated January 13, 2006
Reply to Office Action mailed September 14, 2005 and Advisory Action mailed December 7, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Cancelled)

Claim 2. (Currently Amended) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for a service area based on a TDD method to said request, and the number of handovers that the mobile station related to said request has performed in the past is high a handover frequency of the mobile station related to said request is high, is satisfied; and

assigning the channel for the service area based on the FDD method to said request, if said condition is satisfied.

Claim 3. (Currently Amended) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

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judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for a service area based on a TDD method to said request, and the number of handovers that the mobile station related to said request has performed in the past is low a handover frequency of the mobile station related to said request is low, is satisfied; and

assigning the channel for the service area based on the TDD method to said request, if said condition is satisfied.

Claim 4. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for service based on a TDD method to said request, and the maximum reception power value of a forward common channel of the mobile station related to said request is low, is satisfied; and

assigning the channel for the service area based on the FDD method to said request, if said condition is satisfied.

Claim 5. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for

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service based on a TDD method to said request, and the maximum reception power value of a forward common channel of the mobile station related to said request is high, is satisfied; and assigning the channel for the service area based on the TDD method to said request, if said condition is satisfied.

Claim 6. (Cancelled).

Claim 7. (Previously Presented) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for a service area based on a TDD method to said request, is satisfied, and a type of communication related to said request; and

assigning either the channel for the service area based on the FDD method or the channel for the service area based on the TDD method to said request depending on said type of communication if said condition is satisfied,

wherein said assigning step assigns the channel for the service area based on the FDD method to said request, if said type of communication is voice communication and said condition is satisfied, and assigns the channel for the service area based on the TDD method to said request, if said type of communication is data communication and said condition is satisfied.

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Claim 8. (Currently Amended) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and whose number of handovers performed in the past handover frequency is high; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 9. (Currently Amended) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose number of handovers performed in the past handover frequency is low; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 10. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

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detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and whose transmission power is high; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 11. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose transmission power is low; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 12. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned

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and whose reception power of a forward common channel of a base station with which the mobile station currently communicates is low; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 13. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose reception power of a forward common channel of a base station with which the mobile station currently communicates is high; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 14. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which has a balance between reverse traffic and forward traffic; and

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switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 15. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which does not have a balance between reverse traffic and forward traffic; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 16. (Previously Presented) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which achieves a balance between reverse traffic and forward traffic of the service area based on the FDD method, if the assigned channel of the mobile station is switched from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method; and

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switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 17. (Previously Presented) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which achieves a balance between reverse traffic and forward traffic of the service area based on the FDD method, if the assigned channel of the mobile station is switched from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 18. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which currently performs a particular type of communication; and

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switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 19. (Original) The channel assigning method as claimed in claim 18, wherein said particular type of communication is voice communication.

Claim 20. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which currently performs a particular type of communication; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 21. (Original) The channel assigning method as claimed in claim 20, wherein said particular type of communication is data communication.

Claim 22. (Original) The channel assigning method as claimed in claim 8, 10, 12, 14, 16, or 18, wherein said detecting step is performed, if traffic or interference of the service area based on the TDD method is high.

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Claim 23. (Original) The channel assigning method as claimed in claim 9, 11, 13, 15, 17 or 20, wherein said detecting step is performed, if traffic or interference of the service area based on the FDD method is high.

Claim 24. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned, if traffic or interference of the service area based on the TDD method is high; and

switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 25. (Original) A channel assigning method for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said method comprising the steps of:

detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned, if traffic or interference of the service area based on the FDD method is high; and

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switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 26. (Previously Presented) The channel assigning method as claimed in any one of claims 2-5, 7-18, 20, 24 and 25, wherein said FDD method is a CDMA-FDD method and said TDD method is a CDMA-TDD method.

Claim 27. (Cancelled)

Claim 28. (Currently Amended) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for a service area based on a TDD method to said request, and the number of handovers that the mobile station related to said request has performed in the past a handover frequency of the mobile station related to said request is high, is satisfied; and

means for assigning the channel for the service area based on the FDD method to said request, if said condition is satisfied.

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Claim 29. (Currently Amended) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for a service area based on a TDD method to said request, and the number of handovers that the mobile station related to said request has performed in the past a handover frequency of the mobile station related to said request is low, is satisfied; and

means for assigning the channel for the service area based on the TDD method to said request, if said condition is satisfied.

Claim 30. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for service area based on a TDD method to said request, and the maximum reception power value of a forward common channel of the mobile station related to said request is low, is satisfied; and

means for assigning the channel for the service area based on the FDD method to said request, if said condition is satisfied.

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Claim 31. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for service area based on a TDD method to said request, and the maximum reception power value of a forward common channel of the mobile station related to said request is high, is satisfied; and

means for assigning the channel for the service area based on the TDD method to said request, if said condition is satisfied.

Claim 32. (Previously Presented) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for judging, when a request for channel assignment is issued, whether a condition that it is possible to assign both a channel for a service area based on a FDD method and a channel for service area based on a TDD method to said request, is satisfied, and a type of communication related to said request; and

means for assigning either the channel for the service area based on the FDD method or the channel for the service area based on the TDD method to said request depending on said type of communication, if said condition is satisfied,

wherein said means for assigning assigns the channel for the service area based on the FDD method to said request, if said type of communication is voice communication and said

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condition is satisfied, and assigns the channel for the service area based on the TDD method to said request, if said type of communication is data communication and said condition is satisfied.

Claim 33. (Currently Amended) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and whose number of handovers performed in the past handover frequency is high; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 34. (Currently Amended) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose number of handovers performed in the past handover frequency is low; and

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means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 35. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and whose transmission power is high; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 36. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose transmission power is low; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

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Claim 37. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and whose reception power of a forward common channel of a base station with which the mobile station currently communicates is low; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 38. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and whose reception power of a forward common channel of a base station with which the mobile station currently communicates is high; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

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Claim 39. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which has a balance between reverse traffic and forward traffic; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 40. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which does not have a balance between reverse traffic and forward traffic; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 41. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

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means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which achieves a balance between reverse traffic and forward traffic of the service area based on the FDD method, if the assigned channel of the mobile station is switched from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 42. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which achieves a balance between reverse traffic and forward traffic of the service area based on the FDD method, if the assigned channel of the mobile station is switched from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

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Claim 43. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned and which currently performs a particular type of communication; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 44. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned and which currently performs a particular type of communication; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 45. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

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means for detecting a mobile station to which a channel for a service area based on a TDD method is currently assigned and a channel for a service area based on a FDD method can be assigned, if traffic or interference of the service area based on the TDD method is high; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the TDD method to the channel for the service area based on the FDD method.

Claim 46. (Original) A communication apparatus for assigning a channel for use in communication between a mobile station and a base station having one or more service areas, said apparatus comprising:

means for detecting a mobile station to which a channel for a service area based on a FDD method is currently assigned and a channel for a service area based on a TDD method can be assigned, if traffic or interference of the service area based on the FDD method is high; and

means for switching the assigned channel of the detected mobile station from the channel for the service area based on the FDD method to the channel for the service area based on the TDD method.

Claim 47. (Previously Presented) The communication apparatus as claimed in any one of claims 28-46, wherein said communication apparatus is a control station which controls a base station.

Claim 48. (Previously Presented) The communication apparatus as claimed in any one of claims 28-46, wherein said communication apparatus is a base station.